

**U.S. Pat. Appl. Ser. No. 09/755,866**  
**Att. Docket No. 10191/1657**  
Reply to Office Action of June 25, 2004

**Amendments to the CLAIMS:**

Without prejudice, this listing of the claims replaces all prior versions and listings of the claims in the present application:

**LISTING OF CLAIMS:**

1. (Original) A method for an exchange of data in messages between at least two users connected by a bus system, each one of the at least two users including at least one of a predefinable timing mark and an ascertainable timing mark, comprising the steps of:

causing the at least two users to transmit via the bus system messages including the data;

causing a first one of the at least two users, in a function as timer, to control the messages as a function of time such that the first one of the at least two users repeatedly transmits a first reference message including a first time information regarding a time base of the first one of the at least two users, via the bus system at a specifiable time interval; and

if the at least one of the predefinable timing mark and the ascertainable timing mark of a second one of the at least two users is reached without the first reference message of the first one of the at least two users reaching the second one of the at least two users, causing the second one of the at least two users to take over the function of timer by transmitting a second reference message with a second time information via the bus system.

2. (Original) The method according to claim 1, further comprising the steps of:

providing each one of the at least two users as timers; and

causing the first one of the at least two users and the second one of the at least two users to transmit via the bus system the first reference message with the first time information and the second reference message with the second time information when the at least one of the predefinable timing mark and the ascertainable timing mark of any of the at least two users has been reached without a receipt of a corresponding one of the first reference message and the second reference message.

**U.S. Pat. Appl. Ser. No. 09/755,866**  
**Att. Docket No. 10191/1657**  
Reply to Office Action of June 25, 2004

3. (Original) The method according to claim 1, further comprising the steps of:  
subdividing the specifiable time interval into timing windows of a specifiable length;  
and  
transmitting the messages including the data in the timing windows.

4. (Currently Amended) ~~The method according to claim 3, further comprising the step of: A method for an exchange of data in messages between at least two users connected by a bus system, each one of the at least two users including at least one of a predefinable timing mark and an ascertainable timing mark, comprising the steps of:~~  
~~causing the at least two users to transmit via the bus system messages including the data;~~  
~~causing a first one of the at least two users, in a function as timer, to control the messages as a function of time such that the first one of the at least two users repeatedly transmits a first reference message including a first time information regarding a time base of the first one of the at least two users, via the bus system at a specifiable time interval;~~  
~~if the at least one of the predefinable timing mark and the ascertainable timing mark of a second one of the at least two users is reached without the first reference message of the first one of the at least two users reaching the second one of the at least two users, causing the second one of the at least two users to take over the function of timer by transmitting a second reference message with a second time information via the bus system;~~  
~~subdividing the specifiable time interval into timing windows of a specifiable length;~~  
~~transmitting the messages including the data in the timing windows; and~~  
combining one of the first reference message and the second reference message and subsequent ones of the timing windows up to a next reference message to form a first cycle of at least one of the specifiable length and a specifiable structure, wherein:  
the specifiable structure corresponds to the specifiable length, number and time position of the timing windows in the specifiable time interval following the one of the first reference message and the second reference message.

5. (Original) The method according to claim 4, further comprising the steps of:

**U.S. Pat. Appl. Ser. No. 09/755,866**  
**Att. Docket No. 10191/1657**  
Reply to Office Action of June 25, 2004

combining a plurality of first cycles of a same specifiable structure to form a second cycle; and

repeatedly transmitting messages in the second cycle in timing windows having a time interval greater than a time length of the first cycle.

6. (Original) The method according to claim 1, further comprising the step of:

allocating a priority with respect to the function as timer to those of the at least two users capable of being used as a timer.

7. (Currently Amended) The method according to claim 6; A method for an exchange of data in messages between at least two users connected by a bus system, each one of the at least two users including at least one of a predefinable timing mark and an ascertainable timing mark, comprising the steps of:

causing the at least two users to transmit via the bus system messages including the data;

causing a first one of the at least two users, in a function as timer, to control the messages as a function of time such that the first one of the at least two users repeatedly transmits a first reference message including a first time information regarding a time base of the first one of the at least two users, via the bus system at a specifiable time interval;

if the at least one of the predefinable timing mark and the ascertainable timing mark of a second one of the at least two users is reached without the first reference message of the first one of the at least two users reaching the second one of the at least two users, causing the second one of the at least two users to take over the function of timer by transmitting a second reference message with a second time information via the bus system; and

allocating a priority with respect to the function as timer to those of the at least two users capable of being used as a timer;

wherein:

initially each one of the at least two users assumes the function as timer for a first cycle with the at least one of the predefinable timing mark and the ascertainable timing mark that is reached first without the each one of the at least two

**U.S. Pat. Appl. Ser. No. 09/755,866**  
**Att. Docket No. 10191/1657**  
Reply to Office Action of June 25, 2004

users having received a corresponding one of the first reference message and the second reference message, and

in a following one of the first cycle of a second cycle, the one of the at least two users having a highest priority takes over the function as timer.

8. (Currently Amended) The method according to claim 3, ~~further comprising the step of:~~  
~~cyclically transmitting the messages including the data in the timing windows wherein the messages are cyclically transmitted.~~

9. (Original) The method according to claim 5, further comprising the steps of:  
omitting a cyclical message transfer in at least one of the timing windows of one of the first cycle and the second cycle; and  
transmitting arbitrating messages in the at least one of the timing windows of one of the first cycle and the second cycle.

10. (Currently Amended) A device for an exchange of data in messages between at least two users connected by a bus system, each one of the at least two users including at least one of a predefinable timing mark and an ascertainable timing mark, comprising:

~~an arrangement means~~ for causing the at least two users to transmit via the bus system messages including the data;

~~an arrangement means~~ for causing a first one of the at least two users, in a function as timer, to control the messages as a function of time such that the first one of the at least two users repeatedly transmits a first reference message including a first time information regarding a time base of the first one of the at least two users, via the bus system at a specifiable time interval; and

~~an arrangement means~~ for causing, if the at least one of the predefinable timing mark and the ascertainable timing mark of a second one of the at least two users is reached without the first reference message of the first one of the at least two users reaching the second one of the at least two users, the second one of the at least two users to take over the function of timer by transmitting a second reference message with a second time information via the bus system.

**U.S. Pat. Appl. Ser. No. 09/755,866**  
**Att. Docket No. 10191/1657**  
Reply to Office Action of June 25, 2004

11. (New) The device according to claim 10, further comprising:

means for providing each one of the at least two users as timers; and

means for causing the first one of the at least two users and the second one of the at least two users to transmit via the bus system the first reference message with the first time information and the second reference message with the second time information when the at least one of the predefinable timing mark and the ascertainable timing mark of any of the at least two users has been reached without a receipt of a corresponding one of the first reference message and the second reference message.

12. (New) The device according to claim 10, further comprising:

means for subdividing the specifiable time interval into timing windows of a specifiable length; and

means for transmitting the messages including the data in the timing windows.

13. (New) The device according to claim 12, wherein the messages are cyclically transmitted.

14. (New) The device according to claim 10, further comprising:

means for allocating a priority with respect to the function as timer to those of the at least two users capable of being used as a timer.

15. (New) A device for an exchange of data in messages between at least two users connected by a bus system, each one of the at least two users including at least one of a predefinable timing mark and an ascertainable timing mark, comprising:

means for causing the at least two users to transmit via the bus system messages including the data;

means for causing a first one of the at least two users, in a function as timer, to control the messages as a function of time such that the first one of the at least two users repeatedly transmits a first reference message including a first time information regarding a time base of the first one of the at least two users, via the bus system at a specifiable time interval;

means for causing, if the at least one of the predefinable timing mark and the ascertainable timing mark of a second one of the at least two users is reached without the first

**U.S. Pat. Appl. Ser. No. 09/755,866**  
**Att. Docket No. 10191/1657**  
Reply to Office Action of June 25, 2004

reference message of the first one of the at least two users reaching the second one of the at least two users, the second one of the at least two users to take over the function of timer by transmitting a second reference message with a second time information via the bus system;

means for subdividing the specifiable time interval into timing windows of a specifiable length;

means for transmitting the messages including the data in the timing windows; and

means for combining one of the first reference message and the second reference message and subsequent ones of the timing windows up to a next reference message to form a first cycle of at least one of the specifiable length and a specifiable structure, wherein the specifiable structure corresponds to the specifiable length, number and time position of the timing windows in the specifiable time interval following the one of the first reference message and the second reference message.

16. (New) The device according to claim 15, further comprising:

means for combining a plurality of first cycles of a same specifiable structure to form a second cycle; and

means for repeatedly transmitting messages in the second cycle in timing windows having a time interval greater than a time length of the first cycle.

17. (New) The device according to claim 16, further comprising:

means for omitting a cyclical message transfer in at least one of the timing windows of one of the first cycle and the second cycle; and

means for transmitting arbitrating messages in the at least one of the timing windows of one of the first cycle and the second cycle.

18. (New) A device for an exchange of data in messages between at least two users connected by a bus system, each one of the at least two users including at least one of a predefinable timing mark and an ascertainable timing mark, comprising:

means for causing the at least two users to transmit via the bus system messages including the data;

**U.S. Pat. Appl. Ser. No. 09/755,866**  
**Att. Docket No. 10191/1657**  
Reply to Office Action of June 25, 2004

means for causing a first one of the at least two users, in a function as timer, to control the messages as a function of time such that the first one of the at least two users repeatedly transmits a first reference message including a first time information regarding a time base of the first one of the at least two users, via the bus system at a specifiable time interval;

means for causing, if the at least one of the predefinable timing mark and the ascertainable timing mark of a second one of the at least two users is reached without the first reference message of the first one of the at least two users reaching the second one of the at least two users, the second one of the at least two users to take over the function of timer by transmitting a second reference message with a second time information via the bus system; and

means for allocating a priority with respect to the function as timer to those of the at least two users capable of being used as a timer;

wherein:

initially each one of the at least two users assumes the function as timer for a first cycle with the at least one of the predefinable timing mark and the ascertainable timing mark that is reached first without the each one of the at least two users having received a corresponding one of the first reference message and the second reference message, and

in a following one of the first cycle of a second cycle, the one of the at least two users having a highest priority takes over the function as timer.

19. (New) The method according to claim 4, further comprising the steps of:

providing each one of the at least two users as timers; and  
causing the first one of the at least two users and the second one of the at least two users to transmit via the bus system the first reference message with the first time information and the second reference message with the second time information when the at least one of the predefinable timing mark and the ascertainable timing mark of any of the at least two users has been reached without a receipt of a corresponding one of the first reference message and the second reference message.

20. (New) The method according to claim 4, further comprising the steps of:

**U.S. Pat. Appl. Ser. No. 09/755,866**  
**Att. Docket No. 10191/1657**  
Reply to Office Action of June 25, 2004

subdividing the specifiable time interval into timing windows of a specifiable length;  
and

transmitting the messages including the data in the timing windows.

21. (New) The method according to claim 20, wherein the messages are cyclically transmitted.

22. (New) The method according to claim 4, further comprising the step of:

allocating a priority with respect to the function as timer to those of the at least two users capable of being used as a timer.

23. (New) The method according to claim 7, further comprising the steps of:

providing each one of the at least two users as timers; and

causing the first one of the at least two users and the second one of the at least two users to transmit via the bus system the first reference message with the first time information and the second reference message with the second time information when the at least one of the predefinable timing mark and the ascertainable timing mark of any of the at least two users has been reached without a receipt of a corresponding one of the first reference message and the second reference message.

24. (New) The method according to claim 7, further comprising the steps of:

subdividing the specifiable time interval into timing windows of a specifiable length;  
and

transmitting the messages including the data in the timing windows.

25. (New) The method according to claim 24, wherein the messages are cyclically transmitted.

26. (New) The method according to claim 7, further comprising the step of:

allocating a priority with respect to the function as timer to those of the at least two users capable of being used as a timer.